AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing Of Claims:

12. (Currently Amended) A distance sensor for a motor vehicle, comprising:

a sensor element for performing one of:

transmitting one of microwaves and light, and

receiving an echo signal reflected by a target object;

a control system including an arrangement for, during travel on a straight road, using an algorithm to ascertain a misalignment angle of the sensor element with respect to a center axis of the motor vehicle from transmitted and received rays, the arrangement correcting a continuing angle measurement in accordance with the misalignment angle; and

an arrangement for compensating for a trajectory for a curvature travel along a curve wherein:

the control system determines a quality indicator of the trajectory from ascertained misalignment angles of individual trajectories in accordance with an adaptive long-term filter; and

the adaptive long-term filter is a noise-optimized linear filter.

13. (Previously Presented) The distance sensor according to claim 12, wherein:

the arrangement for compensating includes a yaw rate sensor that produces a signal capable of correcting the trajectory for the curvature travel.

14. (Canceled)

15. (Currently Amended) The distance sensor according to claim [14] 12, wherein:

the quality indicator is calculated from a correlation value of a regression analysis of at least one of the curve, a number of measured points, a trajectory length, and an object speed.

16. (Canceled)

17. (Previously Presented) The distance sensor according to claim 16, wherein:

the noise-optimized linear filter is a Kalman filter.

18. (Currently Amended) [[The]] A distance sensor for a motor vehicle, comprising [[according to claim14 wherein]]:

a sensor element for performing one of:

transmitting one of microwaves and light, and

receiving an echo signal reflected by a target object;

a control system including an arrangement for, during travel on a straight road, using an algorithm to ascertain a misalignment angle of the sensor element with respect to a center axis of the motor vehicle from transmitted and received rays, the arrangement correcting a continuing angle measurement in accordance with the misalignment angle; and

an arrangement for compensating for a trajectory for a curvature travel along a curve wherein:

the control system determines a quality indicator of the trajectory from ascertained misalignment angles of individual trajectories in accordance with an adaptive long-term filter; and

the adaptive long-term filter is a nonlinear filter in which a weighting of individual measured values results from a quality appraisal.

19. (Previously Presented) The distance sensor according to claim 13, wherein:

when a positioning of the sensor element occurs outside the center axis of the motor vehicle, the control system ascertains the misalignment angle with respect to the center axis.

20. (Currently Amended) [[The distance sensor according to claim 19, wherein:]] A distance sensor for a motor vehicle, comprising:

a sensor element for performing one of:

transmitting one of microwaves and light, and

receiving an echo signal reflected by a target object;

a control system including an arrangement for, during travel on a straight road, using an algorithm to ascertain a misalignment angle of the sensor element with respect to a center

axis of the motor vehicle from transmitted and received rays, the arrangement correcting a continuing angle measurement in accordance with the misalignment angle; and

an arrangement for compensating for a trajectory for a curvature travel along a curve; wherein:

the arrangement for compensating includes a yaw rate sensor that produces a signal capable of correcting the trajectory for the curvature travel;

when a positioning of the sensor element occurs outside the center axis of the motor vehicle, the control system ascertains the misalignment angle with respect to the center axis, and

the control system performs a weighting of the misalignment angle as one of a first process involving a function of weighted average values of the yaw rate sensor and a second process involving a displacement of the center axis.

21. (Previously Presented) The distance sensor according to claim 20, wherein:

the weighting occurs on the weighted average values of the first process and the second process.

22. (Previously Presented) The distance sensor according to claim 20, wherein:

quality numbers for the misalignment angle are developed from weighting factors according to the formula:

$$d_{alpha} = G1(q\_traj) \star d_{alpha\_traj} + G2(q\_obj) \star d_{alpha\_obj}.$$

where d_{alpha} is a currently valid misalignment angle from the center axis, G1(q_traj) and G2(q obj) are weighted average values from values of one of the yaw rate sensor and an average displacement, and d_{alpha_traj} and d_{alpha_obj} are associated angles.

23. (Canceled)